UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/803,862	03/18/2004	Jun Sugano	5456.P0001US	7885

23474   7590   11/14/2007

FLYNN THIEL BOUTELL & TANIS, P.C.
2026 RAMBLING ROAD
KALAMAZOO, MI 49008-1631

EXAMINER
PARK, EDWARD

ART UNIT	PAPER NUMBER
2624	

MAIL DATE	DELIVERY MODE
11/14/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-40* is/are pending in the application.

  4a) Of the above claim(s) *1-9 and 22-30* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *10-21 and 31-40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

  a)☐ All   b)☐ Some *   c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____ .

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

  * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ .

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____ .

DETAILED ACTION

Response to Election/Restrictions

1.   Applicant's election with traverse of group II, species A (claims 10-21 and 31-40) in the

reply filed on 10/11/07 is acknowledged. The traversal is on the ground(s) a search for the

elected invention would entail a search for the non-elected invention. This is not found

persuasive because for the reasons stated in the previous requirement for restriction/election

dated on 8/7/07.

        The requirement is still deemed proper and is therefore made FINAL.

Claim Objections

2.   The following is a quotation of 37 CFR 1.75(a):

> The specification must conclude with a claim particularly pointing out and distinctly claiming the subject matter
> which the applicant regards as his invention or discovery.

3.   **Claims 13, 37-40** are objected to under 37 CFR 1.75(a), as failing to conform to

particularly point out and distinctly claim the subject matter which application regards as his

invention or discovery. It is unclear whether the "/" operation indicates an "and", and "or", or an

"and/or". Clarification is required.

Claim Rejections - 35 USC § 101

4.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV, reads as follows:

> Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data.

> When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare In re Lowry, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and Warmerdam, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).

> In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

5.   **Claims 21, 36, 40** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claim 21, 36, 40 define a program product for a computer embodying functional descriptive material. However, the claim does not define a computer-readable medium or memory and is thus non-statutory for that reason (i.e., "When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized" – Guidelines Annex IV). That is, the scope of the presently claimed program product for a can range from paper on which the program is written, to a program simply contemplated and memorized by a person. The examiner suggests amending the claim to embody the program on "computer-

readable medium" or equivalent in order to make the claim statutory. Any amendment to the

claim should be commensurate with its corresponding disclosure.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. **Claims 37, 38, 39, 40** are rejected under 35 U.S.C. 102(e) as being anticipated by Tumey

et al (US 6,963,659 B2).

Regarding **claim 37**, Tumey discloses a user authentication method for authenticating an

identify of a user of one information terminal device when the user communicates via a network

with a user of another information terminal device, the user authentication method comprising

the steps of:

transmitting iris image data or fingerprint image data (see figure 1, numeral 126

fingerprint sensor interface electronics for communicating digitized fingerprint data acquired

from fingerprint sensor 130) obtained by capturing by the one information terminal device (see

figure 1, numeral 130; col. 5, lines 44-55 thermal-based fingerprint sensor 130) an iris image or a

fingerprint image of the user himself/herself of the one information terminal device with

information which is an object of communication to the another information terminal device (see

figure 1, numeral 132; col. 6, lines 1-13 the fingerprint image data stored in master biometric

database 132 which resides in fixed disk storage device 125);

receiving by the another information terminal device the iris image data or the fingerprint

image data transmitted with the information which is the object of communication from the one

information terminal device and storing and registering the iris image data or the fingerprint

image data as registration iris image data or registration fingerprint image data (figure 1,

numerals 126, 132, 125; col. 6, lines 1-13 master biometric database 132 receives the

information from a terminal device 130 which transmits fingerprint image data through the

interface of 126); and

comparing the received iris image data or the received fingerprint image data with the

registration iris image data or the registration fingerprint image data to thereby authenticate an

identity of the user of the one information terminal device based on a comparison result thereof

when the iris image data or the fingerprint image data transmitted with the information which is

the object of communication from the one information terminal device is received by the another

information terminal device at a time a next and subsequent communication is performed (see

col. 5, lines 30-43 fingerprint verification software 141 compares a first digitized human

fingerprint 151, stored on said disk storage device 118 with a second digitized human fingerprint

152 acquired in real-time from human user 150 an provides verification or non-verification of

human user).

Regarding **claims 38**, Tumey discloses a user authentication system for authenticating an identity of a user of one information terminal device when the user communicates via a network with a user of another information terminal device, wherein said one information terminal device comprises:

an imaging means for capturing an iris image or a fingerprint image of the user (figure 1, numeral 130);

an iris image data or fingerprint image data added information creating means for adding the iris image data or the fingerprint image data obtained by capturing by said imaging means to information which is an object of communication (figure 1, numeral 132 master biometric database); and

an iris image data or fingerprint image data added information transmitting means for transmitting iris image data or fingerprint image data added information created by said iris image data or fingerprint image data added information creating means to said another information terminal device (figure 1, numeral 103; col. 5, lines 62-67 administrative control center 102 is remotely connectable to one or more client terminals 101 via communications network for communicating data between the local computer and admin control center which can include a LAN and the Internet 103), and

wherein said another information terminal device comprises:

an iris image data or fingerprint image data added information receiving means for receiving the iris image data or fingerprint image data added information transmitted from said one information terminal device (figure 1, numeral 101 local terminal);

a registration iris image data storing means or a registration fingerprint image data storing

means for storing and registering as registration iris image data or registration fingerprint image

data the iris image data or the fingerprint image data of the user himself/herself included in the

iris image data or fingerprint image data added information received by said iris image data or

fingerprint image data added information receiving means (see figure 1, numeral 131 local stored

database); and

an iris image data comparing means or a fingerprint image data comparing means for

comparing iris image data or fingerprint image data included in the iris image data or fingerprint

image data added information received by said iris image data or fingerprint image data added

information receiving means with the registration iris image data stored in said registration iris

image data storing means or the registration fingerprint image data stored in said registration

fingerprint image data storing means at a time a next and subsequent communication is

performed (col. 5, lines 25-35 fingerprint verification software 141 which compares a first

digitized human fingerprint 151, stored on said disk storage device 118 with a second digitize

human fingerprint 152 acquired in real-time from human user 150).

Regarding **claim 39**, Tumey discloses an information terminal device (see figure 1,

numeral 102). See rejection of claim 38 for the remaining elements of claim 39.

Regarding **claim 40**, Tumey discloses a program product for a computer (see figure 1,

numerals 122, 123, 124). See rejection of claim 38 for the remaining elements of claim 40.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

8.   **Claims 10, 12, 17, 19, 20, 21** rejected under 35 U.S.C. 103(a) as being unpatentable over

Hanna et al (US 6,714,665 B1) in view of Shin (US 2004/0037452 A1).

Regarding **claim 10**, Staas discloses a subject identification method for identifying a

subject using an imaging means constituted by including a standard lens and a close-up lens

having a focal length shorter than a focal length of the standard lens, the subject identification

method comprising the steps of:

capturing a current standard image of the subject using the standard lens to generate current

standard image data (see figure 20, numeral 2012 obtain low-res NFOV image), and capturing a

current close-up image of the subject using the close-up lens to generate current close-up image

data when performing identification of the subject (see figure 21, numeral 2112 obtain high-res

NFOV image); and

comparing thereafter by a close-up image data comparing means the current close-up image data

with the registration close-up image data stored in the registration close-up image data storing

means to thereby perform identification of the subject (see figure 3, numeral 326 which is the iris

classification and comparison).

Hanna does not disclose storing images as registration image data in image data storing means.

Shin teaches storing images as registration image data in image data storing means (see paragraph [0063] where the registration module registers the captured images from the image input means 10).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Hanna reference to store and register image data as suggested by Shin, to allow verification through the comparison of the individual's biometrics.

Regarding **claim 12**, Hanna discloses wherein the subject is a person or an animal (see figure 6, numeral 610 which is an image of a person); wherein the standard image is a facial image, capturing a substantially entire face of the subject (see figure 20, numeral 2012 which is a image of the face); and, wherein the close-up image is an iris image capturing an iris of the subject (see figure 21, numeral 2112 which leads to the extraction of the iris image in figure 21 numeral 2133).

Regarding **claim 17**, Hanna discloses a subject identification system for identifying a subject using an imaging means constituted by including a standard lens and a close-up lens having a focal

length shorter than a focal length of the standard lens, the subject identification system comprising:

a current standard image obtaining means for capturing a current standard image of the subject using the standard lens to thereby generate current standard image data (see figure 20, numeral 2012 obtain low-res NFOV image);

a current close-up image obtaining means for capturing a current close-up image of the

subject using the close-up lens to thereby generate current close-up image data (see figure 21,

numeral 2112 obtain high-res NFOV image);

and a close-up image data comparing means for comparing the current close-up image

data obtained by said current close-up image obtaining means with the registration close-up

image data stored in said registration close-up image data storing means (see figure 3, numeral

326 which is the iris classification and comparison).

Hanna does not disclose a means for storing and registering image captured in advance as

registration image data.

Shin teaches a means for storing and registering image captured in advance as

registration image data (see paragraph [0063] where the registration module registers the

captured images from the image input means 10).

It would have been obvious at the time the invention was made to one of ordinary skill in

the art to modify the Hanna reference to store and register image data as suggested by Shin, to

allow verification through the comparison of the individual's biometrics.

Regarding **claim 19**, Hanna further discloses wherein the subject is a person or an animal

(see figure 6, numeral 610 which is an image of a person); wherein the close-up image is an iris

image capturing an iris of the subject (see figure 21, numeral 2112 which leads to the extraction

of the iris image in figure 21 numeral 2133); wherein a light source for illumination emitting

light toward the subject when the current close-up image of the subject is captured using the

close-up lens is provided (see figure 3, numeral 331 which is responsive to the lighting control

process 330); and wherein the light source is configured to have a shape, pattern (see col. 13,

lines 12-29 control process 330 may switch a specified one of the light sources 124, 126, 128,

130, and 132), color, or combination thereof which is updated to be changed.

Regarding **claim 20**, Hanna further discloses wherein the subject is a person or an animal

(see figure 6, numeral 610 which is an image of a person); wherein the close-up image is an iris

image capturing an iris of the subject (see figure 21, numeral 2112 which leads to the extraction

of the iris image in figure 21 numeral 2133); wherein a light source for illumination emitting

light toward the subject when the current close-up image of the subject is captured using the

close-up lens is provided (figure 3, numeral 331); and wherein the illumination by the light

source has a same brightness as **a** brightness for capturing the close-up image of the subject for

obtaining the registration close-up image data to be stored in said registration close-up image

data storing means, and the illumination by the light source keeps a constant brightness every

time the current close-up image of the subject is captured (see col. 16, lines 5-18 which has an

illumination technique that allows the head and eyes of the persons being imaged to be uniformly

illuminated regardless of their respective positions).

Regarding **claim 21**, Hanna discloses a program product for a computer (figure 3,

numeral 310) to function as a subject identification system for identifying a subject using an

imaging means constituted by including a standard lens and a close-up lens having a focal length

shorter than a focal length of the standard lens, the program product comprising:

a current standard image obtaining means for capturing a current standard image of the

subject using the standard lens to thereby generate current standard image data (see figure 20,

numeral 2012 obtain low-res NFOV image);

a current close-up image obtaining means for capturing a current close-up image of the

subject using the close-up lens to thereby generate current close-up image data (see figure 21,

numeral 2112 obtain high-res NFOV image); and

a close-up image data comparing means for comparing the current close-up image data

obtained by said current close-up image obtaining means with the registration close-up image

data stored in said registration close-up image data storing means (see figure 3, numeral 326

which is the iris classification and comparison).

Hanna does not disclose a storing means for storing and registering images captured in

advance as registration image data.

Shin teaches a means for storing and registering image captured in advance as

registration image data (see paragraph [0063] where the registration module registers the

captured images from the image input means 10).

It would have been obvious at the time the invention was made to one of ordinary skill in

the art to modify the Hanna reference to store and register image data as suggested by Shin, to

allow verification through the comparison of the individual's biometrics.

9.   **Claim 11** is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination

of Hanna et al (US 6,714,665 B1) with Shin (US 2004/0037452 A1) as applied to claim 10

above, and further in view of Langley (US 6,970,582 B2).

Regarding **claim 11**, Hanna with Shin combination discloses all elements as mentioned

above in claim 10. Hanna with Shin does not disclose comparing a standard image data

comparing means the current standard image data with the registration standard image data

stored in the registration standard image data storing means, along with said comparing step by the close-up image data comparing means, to thereby perform identification of the subject.

Langley teaches comparing multiple biometric features (see col. 2, lines 17-33 verification by using multiple scanned biometric features by comparing the biometric data with reference biometric data recorded from the user during an enrollment procedure, to verify the identity of the user). The concept of utilizing and comparing multiple biometric features is equivalent to comparing the current standard image data along with the close-up with the respective registration image data.

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Hanna with Shin combination to utilize and compare multiple biometric features as suggested by Langley, to "[obtain] increased accuracy" (col. 2, lines 17-33) and reliability of the overall system.

10.   **Claim 13** is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Hanna et al (US 6,714,665 B1) with Shin (US 2004/0037452 A1) as applied to claim 10 above, and further in view of Tumey et al (US 6,963,659 B2).

Regarding **claim 13**, Hanna with Shin combination discloses all elements as mentioned above in claim 12. Hanna further teaches wherein the subject is a person or an animal (see figure 6, numeral 610 which is an image of a person); wherein the standard image is a hand or foot image capturing a substantially entire hand or foot of the subject (see figure 6, numeral 610). Hanna with Shin combination does not disclose a close-up image as a fingerprint image capturing a fingerprint of the subject.

Tumey teaches a close-up image as a fingerprint image capturing a fingerprint of the

subject (see figure 1, numeral 120 which is taken by the camera of numeral 112).

It would have been obvious at the time the invention was made to one of ordinary skill in

the art to modify the Hanna with Shin combination to utilize a fingerprint image as suggested by

Tumey, in order to "[layer] multiple biometric techniques for providing increased levels of

security" (col. 1, lines 15-26) which is well known in the art.

11.   **Claims 14, 15** is rejected under 35 U.S.C. 103(a) as being unpatentable over the

combination of Hanna et al (US 6,714,665 B1) with Shin (US 2004/0037452 A1) as applied to

claim 12 above, and further in view of Moulton (US 4,468,807).

Regarding **claim 14**, Hanna with Shin combination discloses all elements as mentioned

above in claim 12. Hanna further discloses an optical source noise (see figure 3, numeral 331),

which is formed by reflecting a light source for illumination used when capturing an image; a

same light source as the light source for illumination is used (see col. 6, lines 43-59; adjusts the

operation of the imager so that a uniform brightness level may be established); and comparing

step is performed by the close-up image data comparing means, the current close-up image data

including the optical source noise is compared with the registration close-up image data

including the optical source noise (see figure 3, numeral 326 which is the iris classification and

comparison). Hanna with Shin combination does not disclose combining optical source noise

with a storing means.

Moulton teaches combining optical source noise with a storing means (abstract; light

levels of an image are stored in a picture memory device).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Hanna with Shin combination to combine optical source noise with a storing means as suggested by Moulton, in order ensure uniformity and reliability of the images that are used in verifying users in the biometric system.

Regarding **claim 15**, Hanna further discloses wherein, when the current close-up image of the subject is captured using the close-up lens, a shape, pattern , color, or combination thereof of the light source is updated to be changed (see col. 13, lines 12-29 control process 330 may switch a specified one of the light sources 124, 126, 128, 130, and 132); and wherein, when the comparing step is performed by the close-up image data comparing means, a shape, pattern, color, or combination thereof of the optical source noise of the registration close-up image data used in the comparing step is changed according to the change in a shape, pattern, color, or combination thereof of the light source (see col. 6, lines 43-59; adjusts the operation of the imager so that a uniform brightness level may be established which would adjust the optical source noise of the registration close-up image data).

12.   **Claim 16** is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Hanna et al (US 6,714,665 B1), Shin (US 2004/0037452 A1), with Moulton (US 4,468,807) as applied to claim 15 above, and further in view of Aucsmith et al (US 5,933,502).

Regarding **claim 16**, Hanna, Shin, with Moulton combination discloses all elements as mentioned above in claim 15. Hanna, Shin, with Moulton combination does not disclose a light source that is a display portion which performs displaying on a screen; and wherein, when the shape, pattern, color, or combination thereof of the light source is updated to be changed, a

shape, pattern, color, or combination thereof of a display drawn on the screen of the display

portion is changed.

Aucsmith teaches a light source that is a display portion which performs displaying on a

screen (see col. 4, lines 55-65 illumination source is a typically a computer monitor); and

wherein, when the shape, pattern, color, or combination thereof of the light source is updated to

be changed (figure 2, numeral 207), a shape, pattern, color, or combination thereof of a display

drawn on the screen of the display portion is changed (see col. 4, lines 55-65 modulation of the

illumination source may be for a predetermined amount of time or may be for a pseudo randomly

determined amount of time).

It would have been obvious at the time the invention was made to one of ordinary skill in

the art to modify the Hanna, Shin, with Moulton combination to utilize a display portion as a

light source and alter the pattern as suggested by Aucsmith, in "making visual authentication less

susceptible to replay attacks and spoofing" (col. 1, lines 42-45).

13.   **Claim 18** is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination

of Hanna et al (US 6,714,665 B1) with Shin (US 2004/0037452 A1) as applied to claim 17

above, and further in view of Langley (US 6,970,582 B2).

Regarding **claim 18**, Hanna with Shin combination discloses all elements as mentioned

above in claim 17. Hanna with Shin does not comprising a standard image data comparing

means for comparing the current standard image data obtained by said current standard image

obtaining means with the registration standard image data stored in said registration standard

image data storing means.

Langley teaches comparing multiple biometric features (see col. 2, lines 17-33

verification by using multiple scanned biometric features by comparing the biometric data with

reference biometric data recorded from the user during an enrollment procedure, to verify the

identity of the user). The concept of utilizing and comparing multiple biometric features is

equivalent to comparing the current standard image data along with the close-up with the

respective registration image data.

It would have been obvious at the time the invention was made to one of ordinary skill in

the art to modify the Hanna with Shin combination to utilize and compare multiple biometric

features as suggested by Langley, to "[obtain] increased accuracy" (col. 2, lines 17-33) and

reliability of the overall system.

14.   **Claims 31, 35, 36** are rejected under 35 U.S.C. 103(a) as being unpatentable over the

combination of Hanna et al (US 6,714,665 B1) with Shin (US 2004/0037452 A1), and further in

view of Driscoll, Jr. et al (US 5,067,162).

Regarding **claim 31**, Hanna discloses a subject identification method for identifying a

subject using an imaging means, the subject identification method comprising the steps of:

capturing a current iris image of the subject using the imaging means (see figure 21, numeral

2112 obtain high-res NFOV image) to generate current iris image data (see figure 21, numeral

2133); comparing thereafter by an iris image data comparing means the current iris image data

with the registration iris image data stored in said registration iris image data storing means (see

figure 3, numeral 326 which is the iris classification and comparison).

Hanna does not disclose capturing an iris image of the subject in advance and storing the

iris image as registration iris image data in a registration iris image data storing means, and

capturing a fingerprint image of the subject and storing the fingerprint image as registration

fingerprint image data in a registration fingerprint image data storing means; capturing a current

fingerprint image of the subject using the imaging means to generate current fingerprint image

data when identifying the subject; and comparing by a fingerprint image data comparing means

the current fingerprint image data with the registration fingerprint image data stored in said

registration fingerprint image data storing means to thereby identify the subject.

Shin teaches capturing an iris image of the subject in advance (see figure 2, numeral 51;

paragraph [0063] capture iris images from image input means 10, to register the iris images as

the reference iris) and storing the iris image as registration iris image data in a registration iris

image data storing means (see figure 2, numeral 40; paragraph [0063] store the registered

reference iris images in the reference iris image storage 40).

It would have been obvious at the time the invention was made to one of ordinary skill in

the art to modify the Hanna reference to capture iris image, register, and store the iris data as

suggested by Shin, to allow verification through the comparison of the individual's biometrics.

Driscoll, Jr. teaches capturing a fingerprint image of the subject (see figure 6 capture

reference image and define candidate sections) and storing the fingerprint image as registration

fingerprint image data in a registration fingerprint image data storing means (see figure 6,

numeral 78); capturing a current fingerprint image of the subject using the imaging means to

generate current fingerprint image data when identifying the subject (see figure 6 capture verify

image); and comparing by a fingerprint image data comparing means the current fingerprint

image data with the registration fingerprint image data stored in said registration fingerprint

image data storing means to thereby identify the subject (see figure 6 verify image and evaluate

results and classify).

It would have been obvious at the time the invention was made to one of ordinary skill in

the art to modify the Hanna with Shin combination to capture, store reference fingerprint image

and capture a current fingerprint image and compare as suggested by Driscoll, Jr., to enhance the

overall security and reliability of the biometric system by utilizing more than one biometric

feature such as a fingerprint which is well known to one of ordinary skill in the art.

Regarding **claim 35**, Hanna discloses a subject identification system for identifying a

subject using an imaging means, the subject identification system comprising:

a current iris image obtaining means for capturing a current iris image of the subject

using said imaging means (see figure 21, numeral 2112 obtain high-res NFOV image) to thereby

generate current iris image data (see figure 21, numeral 2133);

an iris image data comparing means for comparing the current iris image data obtained by

said current iris image obtaining means with the registration iris image data stored in said

registration iris image data storing means (see figure 3, numeral 326 which is the iris

classification and comparison).

Hanna does not disclose a registration iris image data storing means for storing and

registering an iris image of the subject captured in advance as registration iris image data;

a registration fingerprint image data storing means for storing and registering a fingerprint image

of the subject captured in advance as registration fingerprint image data;

a current fingerprint image obtaining means for capturing a current fingerprint image of the

subject using said imaging means to thereby generate current fingerprint image data;

a fingerprint image data comparing means for comparing the current fingerprint image data

obtained by said current fingerprint image obtaining means with the registration fingerprint

image data stored in said registration fingerprint image data storing means.

Shin teaches a registration iris image data storing means for storing (see figure 2, numeral

40; paragraph [0063] store the registered reference iris images in the reference iris image storage

40) and registering an iris image of the subject captured in advance as registration iris image data

(see figure 2, numeral 51; paragraph [0063] capture iris images from image input means 10, to

register the iris images as the reference iris).

It would have been obvious at the time the invention was made to one of ordinary skill in

the art to modify the Hanna reference to capture iris image, register, and store the iris data as

suggested by Shin, to allow verification through the comparison of the individual's biometrics.

Driscoll, Jr. teaches a registration fingerprint image data storing means for storing and

registering a fingerprint image of the subject captured in advance as registration fingerprint

image data (see figure 6, numeral 78); a current fingerprint image obtaining means for capturing

a current fingerprint image of the subject using said imaging means to thereby generate current

fingerprint image data (see figure 6 capture verify image); a fingerprint image data comparing

means for comparing the current fingerprint image data obtained by said current fingerprint

image obtaining means with the registration fingerprint image data stored in said registration

fingerprint image data storing means (see figure 6 verify image and evaluate results and

classify).

It would have been obvious at the time the invention was made to one of ordinary skill in

the art to modify the Hanna with Shin combination to capture, store reference fingerprint image

and capture a current fingerprint image and compare as suggested by Driscoll, Jr., to enhance the overall security and reliability of the biometric system by utilizing more than one biometric feature such as a fingerprint which is well known to one of ordinary skill in the art.

Regarding **claim 36**, Hanna discloses a program product for a computer (figure 3, numeral 310). See rejection of claim 35 for the remaining elements of claim 36.

15. **Claims 32, 33** are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Hanna et al (US 6,714,665 B1), Shin (US 2004/0037452 A1) with Driscoll, Jr. et al (US 5,067,162) as applied to claim 31, and further in view of Moulton (US 4,468,807).

Regarding **claim 32**, Hanna, Shin, with Driscoll, Jr. combination discloses all elements as mentioned above in claim 31. Hanna further discloses an optical source noise (see figure 3, numeral 331), which is formed by reflecting a light source for illumination used when capturing an image; a same light source as the light source for illumination is used (see col. 6, lines 43-59; adjusts the operation of the imager so that a uniform brightness level may be established); and comparing step is performed by the iris image data comparing means, the current iris image data including the optical source noise is compared with the registration iris image data including the optical source noise (see figure 3, numeral 326 which is the iris classification and comparison). Hanna, Shin, with Driscoll, Jr. combination does not disclose combining optical source noise with a storing means.

Moulton teaches combining optical source noise with a storing means (abstract; light levels of an image are stored in a picture memory device).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Hanna, Shin, with Driscoll, Jr. combination to combine optical source noise

with a storing means as suggested by Moulton, in order ensure uniformity and reliability of the

images that are used in verifying users in the biometric system.

Regarding **claim 33**, Hanna further discloses wherein, when the current iris image of the

subject is captured using the imaging means, a shape, pattern , color, or combination thereof of

the light source is updated to be changed (see col. 13, lines 12-29 control process 330 may

switch a specified one of the light sources 124, 126, 128, 130, and 132); and wherein, when the

comparing step is performed by the iris image data comparing means, a shape, pattern, color, or

combination thereof of the optical source noise of the registration iris image data used in the

comparing step is changed according to the change in a shape, pattern, color, or combination

thereof of the light source (see col. 6, lines 43-59; adjusts the operation of the imager so that a

uniform brightness level may be established which would adjust the optical source noise of the

registration close-up image data).

16.   **Claim 34** is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination

of Hanna et al (US 6,714,665 B1), Shin (US 2004/0037452 A1), Driscoll, Jr. et al (US

5,067,162), with Moulton (US 4,468,807) as applied to claim 33, and further in view of

Aucsmith et al (US 5,933,502).

Regarding **claim 34**, Hanna, Shin, Driscoll, Jr. with Moulton combination discloses all

elements as mentioned above in claim 33. Hanna, Shin, Driscoll, Jr. with Moulton combination

does not disclose a light source that is a display portion which performs displaying on a screen;

and wherein, when the shape, pattern, color, or combination thereof of the light source is updated

to be changed, a shape, pattern, color, or combination thereof of a display drawn on the screen of

the display portion is changed.

Aucsmith teaches a light source that is a display portion which performs displaying on a

screen (see col. 4, lines 55-65 illumination source is a typically a computer monitor); and

wherein, when the shape, pattern, color, or combination thereof of the light source is updated to

be changed (figure 2, numeral 207), a shape, pattern, color, or combination thereof of a display

drawn on the screen of the display portion is changed (see col. 4, lines 55-65 modulation of the

illumination source may be for a predetermined amount of time or may be for a pseudo randomly

determined amount of time).

It would have been obvious at the time the invention was made to one of ordinary skill in

the art to modify the Hanna, Shin, Driscoll, Jr. with Moulton combination to utilize a display

portion as a light source and alter the pattern as suggested by Aucsmith, in "making visual

authentication less susceptible to replay attacks and spoofing" (col. 1, lines 42-45).

Conclusion

17.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Edward Park whose telephone number is (571) 270-1576. The

examiner can normally be reached on M-F 10:30 - 20:00, (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Vikkram Bali can be reached on (571) 272-7415. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Edward Park
Examiner
Art Unit 2624

/Edward Park/

BRIAN WERNER
SUPERVISORY PATENT EXAMINER